

Bio-Response Operational Testing & Evaluation (BOTE) Project

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14. ABSTRACT This presentation covered an overview of the Bio-Response Operational Test and Evaluation (BOTE) project, its objectives, the technical approach, and its impact.					
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Outline

- Program Overview
- Objectives
- Technical Approach
 - Phase I
 - Phase II
- Impact & Transition
- Summary





Overview

- **Goal:** Execute biological incident response roles and responsibilities from public health and law enforcement response through environmental (remediation) response, in an operational setting
- **BOTE project is an interagency effort involving six federal agencies:**
 - Environmental Protection Agency (EPA)
 - Department of Homeland Security (DHS)
 - Department of Energy (DOE)
 - Department of Defense (DoD)
 - Federal Bureau of Investigation (FBI)
 - Centers for Disease Control and Prevention (CDC)
- **BOTE is jointly managed by the EPA and DHS, and divided into two distinct phases:**
 - Phase 1: Field-level decontamination assessment (Apr-May, 2011)
 - Phase 2: Interagency biological threat exercise (Sep 2011)



Project Objectives

Objective 1: Decontamination

Conduct field-level studies to evaluate the performance of three select decontamination methods and associated protocols

Objective 2: Sampling

Develop, execute, & evaluate a sampling plan designed to measure relative decontamination efficacies of three decontamination methods

Objective 3: Cost Analysis

Conduct an cost analysis of three decontamination methods based on Log Kill results, measurable costs, and “downtime” of structure

Objective 4: Exposure Assessment

Determine the potential exposures associated with re-entry into a building that has been contaminated with surrogate Ba spores and subsequently decontaminated



BOTE Program

- **Phase I Objectives:**

- Conduct and evaluate field-level facility remediation studies of various decontamination, and disposal procedures
- Evaluate the effectiveness of waste/wash water collection, decontamination, and disposal procedures
- Determine the total cost of applying the selected decontamination technology or remediation method/strategy (i.e., including waste handling and treatment)
- Identify any damage to the building or materials/objects that are located inside the building arising from the use of the decontamination technologies

- **Phase II Objectives:**

- Implement the Incident Command System (ICS) structure, processes, and communications between Federal, State, and local partners
- Assess field data management systems and data sharing capabilities
- Exercise field sampling and evidence collection procedures
- Exercise decontamination and waste management processes
- Document all costs associated with an interagency environmental response to an anthrax event in one building

DHS and EPA collaborative program



Idaho National Laboratory Facility



PBF-632 at Idaho National Laboratory





Phase I:

Decontamination and Cost/Benefit Analysis Study

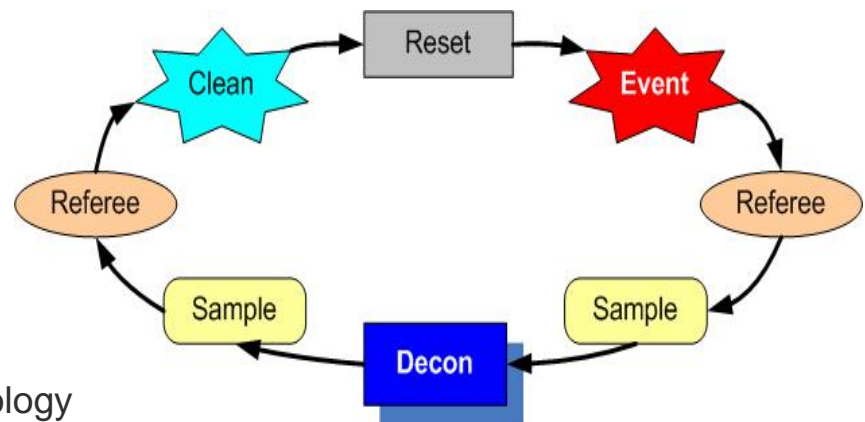
The BOTE decontamination tests involved three rounds (or test and evaluation iterations) where simulant levels, room configurations, and sampling procedures are virtually the same inside the test facility. The ground floor had high contamination and the top floor low contamination.

A variety of decontamination technologies were employed:

- Off the shelf technologies (e.g., amended bleach)
- Less availability, requiring lead time and expertise (e.g., ClorDisys-CLO2)
- Requires significant lead time and expertise (e.g., VHP)

Post-demonstration analysis included:

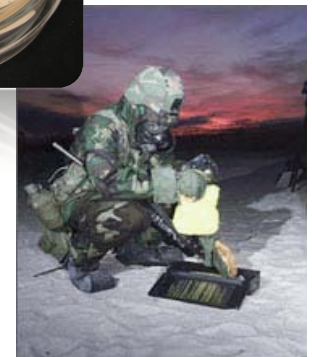
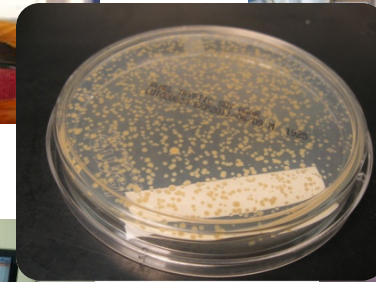
- Efficacy of decontamination methods
- Documentation of operational parameters
 - Time requirements
 - Labor hours
 - Waste generation
 - Adverse impacts on the facility
- Economic Analysis
 - Capture data from studies
 - Assessment of cost of application of technology
 - Estimator for future events
- Risk Analysis



Phase II: Interagency Response

Bio-Incident Response – Covert release followed by an interagency response that includes evidence collection, analysis and facility remediation:

- Conducted September 2011
- Covert Release in Facility
- Coordinated Interagency Response
- Determination of decon methods
- Environmental Clearance Committee



Impact & Transition

BOTE provides:

- Information on the efficacy of several decontamination methods
- Information on the time requirements, labor requirements, waste generated, and adverse impacts on the facility
- Information that can be used to estimate costs associated with a decontamination approach
- Data that can be used to help guide decision making for future events

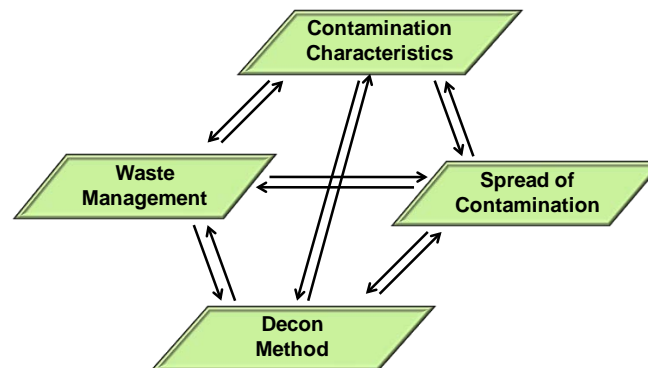
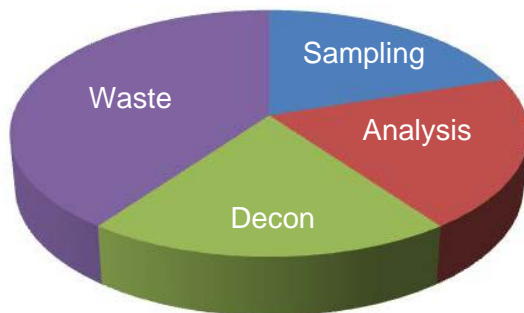




Summary

■ BOTE provides information on:

- Efficacy of several decontamination methods
- Time requirements, labor requirements, waste generated, and adverse impacts on the facility
- Data management systems and information sharing capabilities
- Sampling, decontamination, and waste management processes
- Cost estimates associated with a decontamination approach
- Data that can be used to help guide decision making for future events





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